

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 92 - 006

NPDES PERMIT NO. CA0038016

WASTE DISCHARGE REQUIREMENTS FOR:

CITY OF ST. HELENA, NAPA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that:

1. The City of St. Helena submitted a permit application dated October 28, 1991 for reissuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).
2. The City of St. Helena (hereinafter also called the Discharger) owns and operates the City of St. Helena Wastewater Treatment and Reclamation Plant which provides secondary-level treatment of municipal wastewater from domestic and commercial sources within the City of St. Helena.
3. The City is located in the generally flat terrain of northern Napa Valley, about 30 miles north of San Pablo Bay, and has a current population of about 5,000. The majority of the City area lies to the west of the Napa River, although a small residential area of the city limits extends east of the Napa River. The wastewater treatment plant is located on the western bank of the Napa River, at the eastern corner of the city limits, at the end of Thomann Lane.
4. During the wet weather period of December through April, secondary-level treated effluent is discharged intermittently to the Napa River, a water of the State and of the United States, provided the discharge receives a minimum fifty-to-one (50:1) river to wastewater dilution.
5. Treated effluent is discharged to a non-tidal reach of the Napa River through a non-submerged outfall located on the western bank of the river, at 30° 30' 10" North Latitude, and 122° 26' 15" West Longitude.
6. The discharge of treated wastewater to the Napa River is governed by NPDES Permit No CA0038016, currently in the form of Waste Discharge Requirements in Order No. 86-80 adopted by the Board on November 19, 1986. The reissuance of this NPDES permit is the subject of this Order.
7. During the dry weather season, May through November, discharge to the Napa River is prohibited and the treated effluent is stored in the treatment plant oxidation ponds, or disposed to land through spray irrigation of open grass fields at the City's 80-acre reclamation/disposal facility adjacent to and

southeast of the ponds. The discharge to land is governed by Water Reclamation Requirements in a separate Order, currently Order No. 87-090 adopted by the Board on July 15, 1987.

8. The Discharger's treatment plant has a design treatment capacity of 0.50 million gallons per day (MGD). Influent flows over the past five years have been at an annual average of 0.41 MGD, and an average dry weather flow of 0.34 MGD. Effluent flows to the Napa River, over the past five years, have ranged from 0.2 to 3.2 MGD, and from 10 to 106 discharge days per calendar year.
9. The treatment plant consists of a headworks, an integrated oxidation pond system, disinfection (chlorination) and dechlorination systems, and disposal to the Napa River. Descriptions of these facilities are given below. A map of the facilities is included as an Attachment of this Order.
10. **Headworks:** Wastewater from the collection system enters the plant at the below-grade influent pumping station via a 24-inch diameter gravity main, which feeds into two open channels in the wet pit room. Large solids are reduced by a 'flow-minutor' comminutor in one of the influent channels, and then enters the pump wet well which is equipped with a high-water alarm system. Influent is then pumped via a bank of three variable-speed vertical centrifugal pumps (2 @ 950 gpm; 1 @ 1,500 gpm) to the at-grade pond influent control structure located adjacent to Pond 1. Flow is metered via a 9-inch (1 to 5 MGD) parshall flume and ultrasonic water level transmitter prior to distribution to the pond system. A deisel-fueled generator can provide electrical power for the key plant units during power outages.
11. **Pond System:**
  - A. From the pond influent control structure, wastewater flows through the five-pond system by gravity. Wastewater enters Pond 1, a facultative pond with an in-pond digester, via two submerged inlet ports on the pond bottom. The pond is equipped with three 10-horsepower mechanical aerators which are used primarily for supplementary aeration during night time and inclement weather periods.
  - B. Pond 2 is a 'high-rate' pond designed as an oxygen source. The pond is shallow with a proportionally large surface area, and has a set of redwood baffle walls which channel the flow in a serpentine pattern through the pond. The pond includes two mixing pumps to maintain flow movement and keep algae in suspension in order to enhance the photosynthetic production of oxygen. During daylight hours, well-oxygenated water is recirculated from Pond 2 back to Pond 1.
  - C. Pond 3 serves as a settling pond for algae and other biological solids. Ponds 4 and 5 both serve the dual functions of additional residence time for further breakdown of wastewater constituents, and storage of treated wastewater.

12. **Pond Characteristics:** The physical characteristics of the ponds are tabulated below, in the order of wastewater flow:

Pond No.	Pond Type	Surface Area (Acres)	Depth (Feet)	Volume	
				(Ac-Ft)	(MG)
1.	Facultative, w/ In-Pond Digester	2.2	10	22.0	7.17
2.	High Rate (Aeration)	5.0	3	15.0	4.89
3.	Algae Sedimentation	2.1	8	16.8	5.47
4.	Maturation/Storage	4.3	8	34.4	11.21
5.	Maturation/Storage	5.9	10	59.0	19.23
Totals ----->		19.5		147.2	47.97

13. **Pond Effluent:** An effluent control facility is located at the southeastern corner of Pond 5, between the pond and the Napa River. This facility includes disinfection by chlorination and a serpentine-flow chlorine contact basin, dechlorination by sulfur dioxide, final effluent sampling apparatus, flow metering by a 9-inch (5 MGD) Parshall flume and ultrasonic level transmitter, and valves for controlling the rate of gravity flow discharge to the Napa River. The effluent control structure also includes the sampling and pumping equipment for disposal of effluent to land.
14. **Alarm System:** The treatment plant includes alarms for the following conditions: Influent wet well high water level; Power failure; Emergency power generator operation; Chlorination system low vacuum pressure; and Irrigation (reclamation) pump failure. These alarms are continuously monitored by a personal computer system, with an automated digital paging system for notification of plant operators and the City police department of alarm events.
15. **Wastewater Solids:** The St. Helena plant does not include, nor require, equipment for handling and removal of solids (sludge) from the wastewater treatment process. The primary process for sludge handling is the in-pond digester in Pond 1. Influent solids settle out and are reduced by methane-fermenting anaerobic bacteria at the pond bottom, in partitioned areas created by four-foot high redwood walls on either side of the inlet ports. Since the digester is fully contained within Pond 1, external removal of sludge is not needed. Investigations in 1985 and 1988 found no excessive sludge accumulation, despite continuous operation since 1965.
16. **Plant Improvements:** Plant improvements completed over the past several years include: Installation of three 10-Hp aerators in Pond 1 (1988); Replacement of two, and rebuild of the third, influent pumps (1989); Relocation of Pond 1 inlets for recirculation from Pond 2 (1990); Removal of rubble from around Pond 1 (1990); and Pond 2 upgrade (1990), including overhaul of the two mixing pumps and the Pond 1 recirculation pump, drying and removal of accumulated algae sludge, and repair of the pump platform and redwood baffle walls.

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2.	High Rate (Aeration)	5.0	3	15.0	4.89
3.	Algae Sedimentation	2.1	8	16.8	5.47
4.	Maturation/Storage	4.3	8	34.4	11.21
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16. **Plant Improvements:** Plant improvements completed over the past several years include: Installation of three 10-Hp aerators in Pond 1 (1988); Replacement of two, and rebuild of the third, influent pumps (1989); Relocation of Pond 1 inlets for recirculation from Pond 2 (1990); Removal of rubble from around Pond 1 (1990); and Pond 2 upgrade (1990), including overhaul of the two mixing pumps and the Pond 1 recirculation pump, drying and removal of accumulated algae sludge, and repair of the pump platform and redwood baffle walls.

17. **Future Improvements:** A study completed by the Discharger's consultant in 1989 recommended, in addition to the projects noted above, various plant improvements to maintain and/or enhance the plant's treatment performance and reliability. Although specific plans or schedules have not yet been developed, remaining recommended improvements being considered by the Discharger include: Evaluation of collection system integrity to identify potentially excessive infiltration and inflow; Installation of a magnetic flow meter for accurate monitoring of influent flows; Backup water supply for the Plant Water System (for pump cooling, chlorination, and dechlorination systems); Replace influent barminutor (backup for existing flowminutor); Repair influent sewer main slide gate and wet well high water alarm; Construct second primary pond (Pond 1B) to improve operational flexibility and reliability.
18. The State Water Resources Control Board (State Board) adopted the California Inland Surface Waters Plan on April 11, 1991. This Plan identifies water quality objectives for all inland freshwaters in the state, which includes the Napa River, and a strategy for implementation of the objectives.
19. The Board amended its Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986, and the State Board approved it on May 21, 1987. The Basin Plan identifies beneficial uses and water quality objectives for surface waters in the region, including the Napa River, as well as effluent limitations and discharge prohibitions intended to protect beneficial uses.
20. This Order implements the plans, policies and provisions of the Board's Basin Plan and the State Board's California Inland Surface Waters Plan, and any future amendments to these plans.
21. The beneficial uses of the Napa River identified in the Basin Plan, in the vicinity of the discharge, include:
  - a. Municipal and Domestic Water Supply
  - b. Agricultural Water Supply
  - c. Navigation
  - d. Contact and Non-Contact Water Recreation
  - e. Warm and Cold Fresh Water Habitat
  - f. Wildlife Habitat
  - g. Preservation of Rare and Endangered Species
  - h. Fish Migration and Spawning
22. The Basin Plan prohibits the discharge of wastewater which has characteristics of concern to beneficial uses into any nontidal water, dead-end slough, or other confined water areas or their immediate tributaries. The Basin Plan allows exception to this prohibition to be considered where the discharge is approved as part of a reclamation project.

23. The Napa River is a nontidal water at St. Helena in the vicinity of the discharge location described in Finding 5 above. The Discharger has an active water reclamation program for land disposal of all effluent during the dry weather season, and thus complies with criteria for considering an exception to the discharge prohibition described above.
24. The Board hereby grants an exception to the prohibition against discharge to non-tidal waters, and allows the discharge of disinfected, secondary-treated wastewater from the Discharger's treatment plant to the Napa River during the wet weather season, in accordance with this Order.
25. An Operation and Maintenance Manual is maintained by the Discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.
26. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) pursuant to Section 13389 of the California Water Code.
27. The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity for a public hearing and the opportunity to submit their written views and recommendations.
28. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the City of St. Helena (Discharger) shall comply with the following:

**A. Discharge Prohibitions**

1. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant is prohibited.
2. Average dry weather flow to the treatment plant greater than 0.50 million gallons per day is prohibited. Average dry weather flow shall be determined over three consecutive dry weather months each year.
3. Discharge of wastewater at any point where it does not receive a minimum initial dilution of 50 to 1 (50:1; river to wastewater flow) is prohibited.
4. Discharge to the Napa River is prohibited during the period from May 1 through November 30 of each year. Discharge to the Napa River later than May 1 or prior to November 30 may be authorized by the Executive Officer, for a specified period not to exceed one month, based on a written request from the Discharger documenting that adequate dilution is available at the discharge point, and/or disposal to land is infeasible due to wet weather conditions.

**B. EFFLUENT LIMITATIONS**

The term 'effluent' in the following limitations means the fully treated wastewater effluent from the Discharger's wastewater treatment facility, as discharged to the Napa River.

1. The effluent shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Instantaneous Maximum</u>
a. Biochemical Oxygen Demand (BOD <sub>5</sub> , 20°C)	mg/l	30	45	60	--
b. Total Suspended Solids	mg/l	30	45	60	--
c. Oil and Grease	mg/l	10	--	20	--
d. Settleable Matter	ml/l-hr	0.1	--	--	0.2
e. Total Chlorine Residual (1)	mg/l	--	--	--	0.0

(1) Requirement defined as below the limit of detection in standard test methods.

2. pH: The pH of the effluent shall not be less than 6.0, nor greater than 9.0.

3. **Total Coliform Bacteria:** The treated wastewater, at some place in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:

- a. The moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive samples shall not exceed 23 MPN/100 ml; and
- b. Any single sample shall not exceed 240 MPN/100 ml.

4. **Toxicity (Bioassays):** Representative samples of the effluent shall meet the following limit for acute toxicity:

The survival of organisms in undiluted effluent shall be at least 70 percent survival in each bioassay.  
[Provision F.3. of this Order applies to these bioassays.]

5. **85 Percent Removal, BOD & TSS:** The arithmetic mean of the biochemical oxygen demand (five-day, 20° C) and total suspended solids values, by weight for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected during the same period.

6. The effluent shall not exceed the following limits (1):

<u>Constituent</u>	<u>Monthly Average(2)</u>	<u>Daily Average(2)</u>	<u>Units</u>
a. Arsenic	50	20	ug/l
b. Cadmium	100	10.7	ug/l
c. Chromium(VI) (3)	500	10	ug/l
d. Copper	10,000	78	ug/l
e. Lead	490	23	ug/l
f. Mercury	0.08	2	ug/l
g. Nickel	6,000	200	ug/l
h. Selenium	100	50	ug/l
i. Silver	500	40	ug/l
j. Zinc	50,000	500	ug/l
k. Cyanide	--	52	ug/l
l. Phenols	3,000	1,000	ug/l
m. PAHs (4)	0.03	--	ug/l

- (1) These limits are intended to be achieved through secondary treatment and, as necessary, pretreatment. All values in micrograms per liter (ug/l).
- (2) Limits apply to the average concentration of all samples collected during the averaging period (Daily = 24-hour period; Monthly = Calendar month).
- (3) The Discharger may meet this limit as total chromium.
- (4) Polynuclear Aromatic Hydrocarbons. This limit applies to the summation of detected levels of individual constituent PAHs, as identified by EPA Method 610 (i.e. Total PAHs).



### C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
  - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Bottom deposits or aquatic growths;
  - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
  - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State at any place within one foot of the water surface:
  - a. Dissolved Oxygen: 7.0 mg/l, minimum.

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
  - b. Dissolved Sulfide: 0.1 mg/l, maximum.
  - c. pH: Variation from normal ambient pH by more than 0.5 pH units.
  - d. Un-ionized Ammonia: 0.025 mg/l as N, annual median;  
0.16 mg/l as N, maximum.
  - e. Nutrients: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
3. The discharge shall not cause a violation of any applicable water quality objective or standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

#### D. POND LIMITATIONS

1. Wastewater within one foot of the surface of all wastewater ponds shall meet the following limits, in any grab sample:
  - a. Dissolved Oxygen                      2.0 mg/l, minimum
  - b. Dissolved Sulfide                      0.1 mg/l, maximum
2. A minimum freeboard of at least two (2) feet shall be maintained in all wastewater ponds, except for Pond No. 1.
3. A minimum freeboard of at least one (1) foot shall be maintained in Pond No. 1.
4. All ponds shall be protected against erosion, flooding and washout from floods having a predicted frequency of once in 100 years.

#### E. SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

1. All sludge treatment, processing, storage or disposal activities under the Discharger's control shall be in compliance with current state and federal regulations.
2. The Board may amend this Order prior to the expiration date if necessary to accomodate changes in applicable state or federal sludge regulations, or changes in the Discharger's sludge management procedures.
3. The Discharger shall notify the Board, in writing, prior to any changes in its sludge handling and disposal practices.
4. Permanent sludge storage or disposal activities are not authorized by this permit. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the Discharger.
5. Sludge handling, storage and disposal shall not create a condition of pollution or nuisance as defined in Section 13050 (l) and (m) of the California Water Code.
6. Sludge handling, storage and disposal shall not cause waste to be discharged to, or deposited in, waters of the State.
7. Sludge handling, storage, and disposal shall not cause degradation of groundwaters.
8. Sludge storage facilities under the Discharger's control shall be operated and maintained in such a manner as to provide adequate protection from surface runoff, erosion, or other conditions which would cause drainage from the waste materials to escape from the storage facility site(s).

10. General Provisions A.9. and A.12. of this Board's "Standard Provisions and Reporting Requirements", dated December 1986, apply to sludge handling and disposal practices.
11. The term 'sludge' as used in this permit is defined in Definition E.18 of this Board's "Standard Provisions and Reporting Requirements", dated December 1986.

#### **F. PROVISIONS**

1. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 86-80. Order No. 86-80 is hereby rescinded.
2. **Mass Emission Rates:** Where concentration limitations in mg/l or ug/l are contained in this Permit, the following Mass Emission Rates also apply:

$\text{Mass Emission Rate, in kg/day} = (\text{CL}) \times (3.785) \times (Q)$   
where: CL = Concentration Limit, in mg/l;  
Q = Discharge Flow Rate, in MGD, averaged over  
the time interval to which the limit applies.


#### **3. Bioassays:**

- a. Compliance with Effluent Limitation B.4. of this Order shall be evaluated by measuring survival of test fishes exposed to undiluted effluent for 96 hours in static renewal bioassays, using 24-hour composite samples representative of the discharged effluent. Each fish specie tested represents a single bioassay.
- b. Two fish species shall be tested concurrently. These shall be the most sensitive two species determined from a single concurrent screening of the following three species: three-spine stickleback, rainbow trout and fathead minnow.
- c. Compliance monitoring with only one fish specie (the most sensitive, if known) may be allowed by the Board's Executive Officer, if the both of the following conditions are met:
  - i) The Discharger can document that the acute toxicity limit specified in Effluent Limitation B.4. of this Order has not been exceeded during the previous three years, or that acute toxicity has been observed in only one of the two fish species; and
  - ii) A single screening using all three fish species confirms the documented pattern. All tests must be completed within ten days of initiating the first test.
- d. All bioassays shall be performed according to protocols approved by the U.S. EPA or State Board, or published by the American Society for Testing and Materials (ASTM) or American Public Health Association.

4. **Operations and Maintenance Manual:** Annually, the Discharger shall review, and update as necessary, its Operations and Maintenance Manual. The Manual shall be revised to address any significant facility, process or operational changes. Revisions, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year.
5. **Contingency Plan:** Annually, the Discharger shall review, and update as necessary, its contingency plan as required by Board Resolution No. 74-10. Discharge of pollutants in violation of this Order where the Discharger has failed to develop or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code. Plan revisions, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year.
6. **Evaluation Program:** The Discharger shall implement a program to regularly review and evaluate its wastewater collection, treatment and disposal facilities in order to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and reliable transport, treatment and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.  
**Status Report:** A report discussing the status of this evaluation program, including any recommended or planned actions, shall be submitted to the Board by April 15 of each year.
7. The Discharger shall comply with all sections of this Order immediately upon adoption.
8. The Discharger shall comply with the Self-Monitoring Program for this Order, as adopted by the Board and as may be amended by the Executive Officer.
9. The Discharger shall comply with all applicable items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated December, 1986.
10. **NPDES Permit:** This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator of the Environmental Protection Agency has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

11. **Order Expiration:** This Order expires January 15, 1997.  
The Discharger must file a Report of Waste Discharge (permit application) in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date, as application for issuance of new waste discharge requirements.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on January 15, 1992.



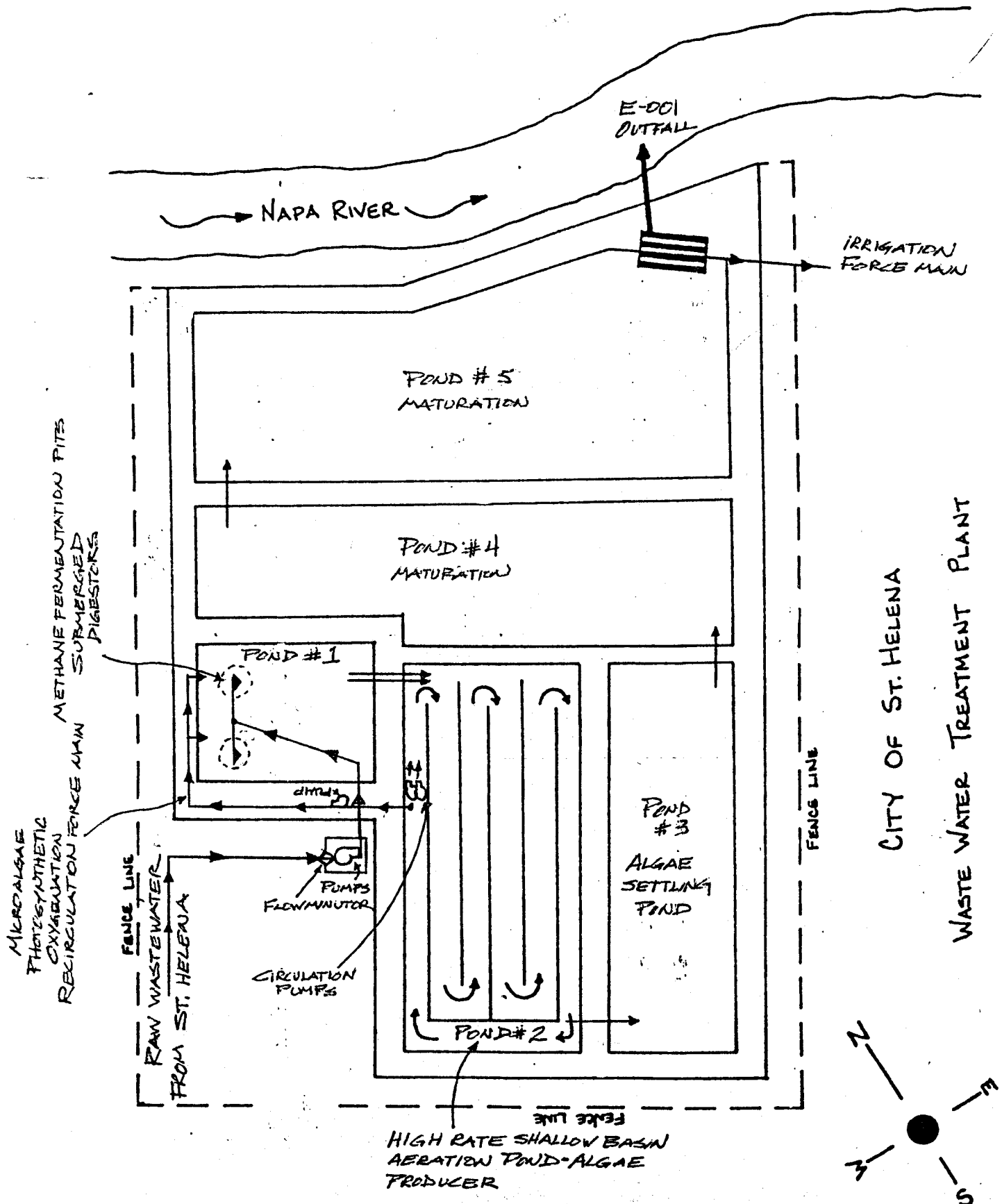
**STEVEN R. RITCHIE**  
Executive Officer

**Attachments:**

- o Map of Wastewater Facilities
- o Self-Monitoring Program
- o Standard Provisions and Reporting Requirements, December 1986
- o Resolution No. 74-10

[File No. 2139.3014]  
[Originator:BDA]  
[Reviewer:RJC]

# " SCHEMATIC OF WASTEWATER FLOW "



City of St. Helena NPDES Permit  
(Order No. 92-006 )

MAP OF WASTEWATER FACILITIES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

THE CITY OF ST. HELENA

NAPA COUNTY

NPDES PERMIT NO. CA0038016

WASTE DISCHARGE REQUIREMENTS  
ORDER NO. 92 - 006

CONSISTS OF

PART A, dated December 1986

AND

PART B

SELF-MONITORING PROGRAM - PART B

I. DESCRIPTION OF SAMPLING STATIONS

NOTE: A sketch showing the locations of the stations described below shall accompany each monthly report, and the Annual report for each calendar year.

A. INFLUENT

<u>Station</u>	<u>Description</u>
A-001	At a point in the treatment facility headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At a point in the effluent from the treatment facility at which treatment of the wastewater is complete, between the point of discharge (outfall) and the point at which all waste tributary to that outfall is present (May be the same as E-001-D or E-001-S).
E-001-D	At a point in the effluent from the treatment facility, downstream of the disinfection facilities, at which point adequate contact with the disinfectant is assured.
E-001-S	At a point in the effluent from the treatment facility downstream of the dechlorination point.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in the Napa River, located about <u>200 feet upstream</u> from the point of discharge.
C-2	At a point in the Napa River, located at the point of discharge.
C-3	At a point in the Napa River, located about <u>100 feet downstream</u> from the point of discharge.
C-4	At a point in the Napa River, located about <u>1,000 feet downstream</u> from the point of discharge.



#### D. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
L-1 through L-'n'	<u>Pond Levees</u> : Points located along the perimeter levees of the wastewater ponds, at intervals not to exceed 500 feet.
P-1 through P-'n'	<u>Plant Perimeter</u> : Points located at the corners and mid-points of the perimeter boundary of the wastewater treatment plant.

#### E. GROUNDWATER

<u>Station</u>	<u>Description</u>
G-1	The well located at the treatment plant site, between the headworks building and Pond No. 2.

#### F. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
OV-1 through OV-'n'	At points in the collection system including manholes and pump stations, where overflows or bypasses occur.

- NOTES: 1. A map and description of each known or observed overflow or bypass location shall accompany the Annual report for each calendar year.
2. Each occurrence of a bypass or overflow shall be reported to the Regional Board in accordance with the reporting requirements specified in Sections G.1 and G.2. of Self-Monitoring Program Part A.

#### II. SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

The schedule of sampling, measurements and analysis shall be that given in Table I and Table I Footnotes (Attachment A).

**III. MODIFICATIONS TO SELF-MONITORING PROGRAM PART A,**  
**December 1986**

- A. This monitoring program does not include the following sections of Part A: C.7.; C.8.; C.11.; C.12.; D.5.; E.1.e.1); E.3.; F.3.; Second sentence of G.4.b.; Second sentence of G.4.d.; G.4.e.; G.4.f.; and Last sentence of G.5.
- B. Paragraph C.5. of Part A is revised to read:  
  

Average weekly and monthly values are calculated as the sum of all daily discharge values measured during the specified period (calendar week or calendar month), divided by the number of daily discharge values measured during that specified period.
- C. In the first sentence of Paragraph G.4.d. of Part A, the phrase "signed by the laboratory director" is revised to read "signed by the Discharger's authorized agent".

**IV. REPORTING REQUIREMENTS**

- A. Monthly Reports: Self-Monitoring Reports for each calendar month shall be submitted to the Board no later than the 15th day of the following month. The required contents of these reports are specified in section G.4. of Part A.
- B. Annual Reports: An annual self-monitoring report, covering the previous calendar year shall be submitted to the Board by January 30 of each year. The required contents of these reports are specified in section G.5. of Part A.
- C. Any overflow, bypass or other significant non-compliance incident that may endanger health or the environment shall be reported according to sections G.1 and G.2. of Part A.
- D. O & M Manual: Revisions to the Discharger's Operations and Maintenance Manual, or a letter stating that no changes are needed shall be submitted to the Board by April 15 of each year [Provision F.4.].
- E. Contingency Plan: Revisions to the Discharger's Contingency Plan, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year [Provision F.5.].
- F. Evaluation Program: A report discussing the status of the Discharger's wastewater facilities evaluation program shall be submitted to the Board by April 15 of each year [Provision F.6.].

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 92-006.
2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.
3. Is effective on the date shown below.

  
**STEVEN R. RITCHIE**  
Executive Officer

Effective Date

1/15/92

Attachment:

- A. Table I with Table I Footnotes

TABLE 1

## SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

SAMPLING STATION		A	E-001			E-001-D		C-3	All C	G	All L	All P	All OV
TYPE OF SAMPLE		C-24	G	C-24	Cont	G	C-24	G	G/O	G	O	O	G/O
	Foot-note	1	2	2	2	2	2	2	2	1	1	1	1 & 10
Flow Rate (mcd)	3	D			D								E
BOD, 5-day, 20°C (mg/l & kg/day)	4	W		3/W									E
Total Suspended Solids (mg/l & kg/day)	4	W		3/W									
Settleable Solids (ml/l-hr)			D										
Oil and Grease (mg/l & kg/day)	5		M										
Chlorine Residual, & Dosage (mg/l & kg/day)	6					Cont, or 2H							
Coliform, Total (MPN/100 ml)						3/W							E
Toxicity, 96-hr Bioassay (% Survival)	7						M						
Turbidity (NTU)									M				
pH (units)			D				(7)		M				
Temperature (°C)			D				(7)		M				
Dissolved Oxygen (mg/l & % Saturation)			D				(7)		M				
Sulfides, Total & D'solved (if DO < 2.0 mg/l) (mg/l)			D						M				
Ammonia Nitrogen (mg/l & kg/day)				M			(7)	M					
Nitrate Nitrogen (mg/l & kg/day)				M						3M			
Nitrite Nitrogen (mg/l & kg/day)													
Total Organic Nitrogen (mg/l & kg/day)				M									
Total Phosphate (mg/l & kg/day)													
Un-ionized Ammonia Nitrog. (mg/l as N)								M					
Total Dissolved Solids (mg/l)								M		3M			
Chlorides (mg/l)										3M			
Hardness (mg/l as CaCO <sub>3</sub> )								M					
Chlorophyll-a (ug/l)								M					
All Applicable Standard Observations			D						M		W	W	E

**TABLE 1**  
**SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS**

SAMPLING STATION		A	E-001			E-001-D		C-3	All C	G	All L	All P	All OV
TYPE OF SAMPLE		C-24	G	C-24	Cont	G	C-24	G	G/O	G	O	O	G/O
	Foot-note	1	2	2	2	2	2	2	2	1	1	1	1 & 10
Arsenic (mg/l or ug/l, & kg/day)	8			3/Y									
Cadmium (mg/l or ug/l, & kg/day)	8			3/Y									
Chromium (mg/l or ug/l, & kg/day)	8			3/Y									
Copper (mg/l or ug/l, & kg/day)	8			3/Y									
Lead (mg/l or ug/l, & kg/day)	8			3/Y									
Mercury (mg/l or ug/l, & kg/day)	8			3/Y									
Nickel (mg/l or ug/l, & kg/day)	8			3/Y									
Selenium (mg/l or ug/l, & kg/day)	8			3/Y									
Silver (mg/l or ug/l, & kg/day)	8			3/Y									
Zinc (mg/l or ug/l, & kg/day)	8			3/Y									
Cyanide (mg/l or ug/l, & kg/day)	8			3/Y									
Phenolic Compounds (mg/l or ug/l, & kg/day)	8			Y									
PAHs (ug/l, & kg/day)	8			Y									
River Flow (cfs or mgd)	9							D					
Volumetric Dilution, River to effluent	9				D			D					

**LEGEND FOR TABLE:**

**TYPES OF SAMPLES**

Cont = Continuous  
C-24 = 24-hour composite  
G = Grab sample  
O = Observations

**FREQUENCY OF SAMPLING**

D = Once each day  
W = Once each week  
M = Once each month  
Y = Once each year  
E = Each event

**TYPES OF STATIONS**

A = Treatment Plant Influent  
E = Treatment Plant Effluent  
C = Receiving Waters  
L = Pond Levee Stations  
P = Plant Perimeter Stations  
OV = Overflow or Bypass Points

3/W = 3 days per week  
2H = Every 2 hours  
3M = Every 3 months  
3/Y = 3 days per discharge year  
Cont = Continuous

\* NOTE: Additional specifications regarding sampling frequency are contained in the Table I Footnotes.

TABLE I FOOTNOTES

- (1) Indicated sampling is required during the entire year.
- (2) Indicated sampling is required during the periods when effluent is being discharged to the Napa River.
- (3) Flow Rate: Influent flows shall be measured continuously. Effluent flows shall be measured continuously for the duration of all discharge events.  
The following flow information shall be reported:

INFLUENT & EFFLUENT: Daily: Flow Rate (MGD)  
Monthly: Average Daily Flow Rate (MGD)  
Maximum Daily Flow Rate (MGD)  
Minimum Daily Flow Rate (MGD)  
Total Flow Volume (MG)  
EFFLUENT: Report also the total number of calendar days when effluent discharge to the river occurred.

- (4) BOD & TSS:  
INFLUENT: Weekly sampling and analysis, all year.  
EFFLUENT: Sampling and analysis for BOD & TSS are required three days per week during the first week when discharge occurs in each calendar month, and then one day per week for the remaining weeks in that calendar month.
- (5) Oil & Grease: Sampling and analysis for Oil & Grease, per the procedure indicated below, is required one day per month, during the first week when discharge occurs.

Each Oil and Grease sample shall consist of three grab samples taken at equal intervals, no less than two hours apart, during the sampling day. Each grab sample shall be collected in a separate glass container and analyzed separately. Results shall be expressed as a weighted average of the three values, based upon the instantaneous flow rates occurring at the time of each grab sample.

- (6) (a) Chlorine Residual: Monitor dechlorinated effluent (E-001-S) continuously or, at a minimum, once every two hours.  
  
Report, on a daily basis, both maximum and minimum concentrations, for samples taken both prior to, and following, dechlorination.
- (b) Chlorine Dosage: Report, on a daily basis, average concentration (mg/l), and total loading (kg/day).

- (7) Bioassays: Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, Temperature, Dissolved Oxygen, and Ammonia Nitrogen.
- (8) Selected Toxic Constituents:
- (a) Metals & Cyanide: Sampling and analysis required three days per discharge year (December 1 through April 30), during the first week when discharge occurs, in each of the first three calendar months of the discharge season when discharge occurs.
  - (b) Phenols & PAH: Sampling and analysis required one day per discharge year (December 1 through April 30).
  - (c) Detection Limits: Laboratory analyses shall be conducted in such a manner as to provide analytical information sufficient to determine compliance with the applicable effluent limitations (Effluent Limitation B.6. of this Order). If the necessary analytical performance is unable to be achieved, the Discharger may request, with supporting documentation, approval from the Executive Officer to allow the use of the best achievable analytical performance.
- (9) River Flow & Volumetric Dilution:
- (a) River flow rate shall be measured at least daily during discharge. Measurement is only required at one monitoring station on the river. The monitoring station used shall be identified in the monthly monitoring report.
  - (b) Volumetric Dilution ratio (river to effluent) shall be reported on at least a daily basis.
- (10) Overflows:
- (a) Flow: For all overflow events, a best estimate of the total overflow volume (gallons) shall be reported.
  - (b) BOD & Coliform: For any overflow event which involves discharge of wastewater to any surface water or waterway (including dry streams & drainage channels), grab samples shall be taken and analyzed for BOD, and both Total and Fecal Coliforms.